

The Consent Decree calls for completing yet another Long Term Control Plan Update by 2006. Again, more money spent on studies, rather than correcting sewer overflows.

Sierra Club seeks to have deadlines in the Consent Decree for all CSO remediation and SSO elimination, as well as deadlines for treatment plant upgrades.¹ Nineteen years is too long. There need to be interim deadlines, priorities for projects that will protect public health and the environment, including sewage in basement overflows. If deadlines are not met, there must be accountability to the court and the public. The oversight and compliance enforcement by the EPA/OEPA has failed to date and will fail again without tight interim standards and benchmarks and careful oversight and supervision by Special Masters appointed by the court to insure both financial and engineering performance and compliance.

III. THE GLOBAL CONSENT DECREE CONSTITUTES AN ATTEMPT BY MSD TO LOWER WATER QUALITY STANDARDS IN THE OHIO RIVER AND ITS HAMILTON COUNTY TRIBUTARIES.

The Consent Decree states that MSD intends to petition EPA/OEPA to *lower* the Water Quality Standards for the rivers and streams in Hamilton County. Although the purported purpose of the Consent Decree is to clean up the Hamilton County rivers and streams and to eventually *meet* the Clean Water Act's goals of swimmable and fishable water, it is the stated intent of the MSD to seek *lower* Water Quality Standards.

If this occurs, it will continue to make boating, swimming, jet skiing, water skiing, canoeing, fishing, drinking water and kayaking as unsafe in the future as it is

¹ The Baton Rouge Consent Decree requires CIP milestones, such as 1/3 or 2/3 complete with all remedial projects by a date certain.

today. This cannot be what Hamilton County residents envision a \$1.5 billion Consent Decree to accomplish.

Presently, the State of Ohio's Water Quality Standards for the Ohio River and tributaries are intended to protect existing uses, including "primary contact recreation." Overflows of raw sewage containing high levels of fecal bacteria from the Hamilton County/City of Cincinnati sewers cause violations of these and other water quality standards, which in turn violate the federal Clean Water Act and the Ohio Revised Code (6111). Every time it rains and even at times in dry weather, the MSD's overflowing sewers dump millions of gallons of raw sewage into Hamilton County waterways.

The Consent Decree states that MSD is "not proposing or agreeing to implement such measures..." as would meet the primary contact Water Quality Standards. Entrusting the sewer system to a MSD management that did not comply/has not complied with federal and state clean water laws in the past, is now costing Hamilton County ratepayers millions in fines and penalties.

The Consent Decree should not be used as a mechanism to justify lower water quality standards in the Ohio and its major tributaries and, MSD must change its intent and seek to meet the existing standards.

IV. THE PROPOSED SEWAGE-IN-BASEMENT PROGRAM DOES NOT PROTECT HAMILTON COUNTY RESIDENTS FROM OVERFLOWING, UNDERSIZED SEWERS.

The *basic* structure of the MSD program tracks a structure first suggested to the MSD, the EPA and OEPA by the Sierra Club in its July 22, 2003 comments to the EPA and elsewhere in the litigation. There are, however, many loopholes in the sewage-in-

basement program proposed by MSD in the Consent Decree, which would allow the MSD to continue to avoid meeting the needs of the victims of backups.

Authorizations of remedies without financial appropriations (legally binding commitments) are meaningless. There has been no money appropriated by the County to fund this program beyond the Supplemental Environmental Project funds from the prior consent decree. The MSD included in its rate calculations in this case approximately \$250 million to purchase just some of the SIB victims' homes. This amount was on top of the multi-million dollar sewer remediation work that MSD claimed would help SIB victims some day in the future. After the Sierra Club and the local media made the plight of the SIB victims public, and after the federal court issued its Order in September, the MSD responded with a "prevention" program, which it claimed would cost only \$37-40 million.² This figure did not include, however, the two other parts of the SIB program, the emergency response and cleanup (Customer Service), and the Claims program.

The Consent Decree does not specify if the program is retroactive or not. This is a very important issue for the SIB victims, some of whom have been living with this horrific problem for up to 20-years. MSD Director, Mr. Karney, said at the October 27th Lockland public meeting that "retroactivity" was up to the Commissioners. The Consent Decree does not specify how many homes would be subject to the prevention program each year. MSD Director Pat Karney cites the St. Louis "grinder pump" program as a "resounding success." St. Louis has installed 45 grinder pumps at residents' homes since 1999 or about 9 homes per year. Mr. Karney, by his own estimate, has 1000 homes that

² The speed with which MSD lowered its capital cost estimates of \$250 million for SIB remediation (used in MSD's rate calculations) to a \$37-40 million program also points out why the \$1.5 billion cap and the multitude of deadline extensions in the Decree are meaningless. MSD cannot be trusted to provide accurate cost estimates. Outside financial oversight is needed to see that MSD spends funds appropriately. See discussion of the Special Master, infra.

will need the prevention program (these are only the homes where MSD admits that sewage backups are its fault). If our MSD were to install grinder pumps in 9 homes per year, it will take MSD over 100 years to provide grinder pumps or some other comparable prevention fix for all of the Hamilton County homeowners where it admits responsibility. If the number of homes is closer to Sierra Club's estimate of 5000 – 10,000, then the program will take 500 to 1000 years at that rate.

MSD has lacked investigative capacity to identify the cause of most SIB incidents – in fact, they have only determined the cause in approximately 10% of the complaints.

The thousands of SIB victims in Hamilton County, Ohio have had enough bad experiences with the MSD's lack of responsiveness and the "Act of God" denial letters from the Cincinnati City Solicitor's office (denying payment of claims where MSD knew it was at fault), that there is a complete breakdown in trust and good faith.

The SIB program in the Consent Decree gives the MSD unfettered discretion to provide, or not provide, prevention devices to Hamilton County homeowners. The time frame for providing these devices is totally up to MSD. MSD can justify continued neglect by claiming lack of appropriation of funds, or any other reason or no reason at all. There are no benchmark standards (e.g., number of prevention systems installed/year, number/amount of claims paid/year, number of cleanups performed/ year, etc.); also, there is no due process right of appeal set out in the SIB program.

The SIB emergency response program also gives MSD unfettered discretion to provide cleanup and response services or not provide them. MSD claims that it will only be able to visit 80 homes in the first 8-hours of a rain event, and then, just to make an eligibility determination. There is no annual budget for this part of the program, either;

no goals as to the number of homes responded to each year; no adequately staffed and trained administrative personnel; no contractor certification program specified; no monitoring program to report on successes and failures (i.e., need for follow-up or return visits), nor is there a formal system for reporting to the Court, Commissioners and the public.

No due process for claimants is provided for in the Consent Decree. No administrative appeals process is provided for. If there is to be an Ombudsperson, he/she should not report to MSD, but to the Special Master and the Commissioners and the City.

Furthermore, the Consent Decree alludes to two jurisdictional pre-requisites that can be used (abused) to prevent an otherwise eligible homeowner from participating in the benefits, if any, of the SIB program. The first is a strict, 24-hr. notification requirement. If the homeowner with sewage in basement fails to notify MSD 24 hours after the incident, MSD can deny the claim. What if the backup occurs while the homeowner is away? The second requirement is that MSD may refuse to allow homeowners to participate in the program, if the homeowners refuse to "flood-proof" their home, as specified by the MSD. This creates numerous obstacles.

Also, the homeowner should not be responsible for maintenance and cost of operating the pumps when the overflows are caused by failures in the MSD system.

The proposed SIB solution has a number of flaws as outlined by SEEI, a firm with considerable experience in both storm and combined sewer technology, as well as specific experience in grinder pump technology. The principal of the firm directed USEPA'S Research and Development activities in these programs. At best, MSD's grinder pump concept is a temporary, partial solution. At worst it is excessively expensive, temporary and simply

moves the overflow to another location. These options are only a band-aid until system capacity is improved.

In short, like the rest of the Consent Decree, the public will find it next to impossible to know if the program is a success or failure. There are no set criteria under which the MSD has consented to be judged. Without standards, benchmarks, milestones, etc., it is impossible to develop a "report card" with which to grade the MSD's performance. A third-party, independent claims system with dedicated funding is essential, as is an appeals process.

The Consent Decrees should require MSD to implement those Capital Improvements as a priority that will stop SIBs.

V. THE DELAY IN FIXING SSO 700 IS BASED ON THE FICTION THAT THE MILL CREEK DEEP TUNNEL WILL BE FUNDED AND CONSTRUCTED, WHICH IS NOW EXTREMELY UNLIKELY

The Interim Partial Decree (or the first Decree), which is incorporated into the "Global" Decree, provides for an interim and illegal temporary fix for SSO 700. SSO 700 discharges over 40 days per year and dumps on average 75 million gallons per year of raw sewage into the Mill Creek. The EPA/OEPA apparently accepted an interim and illegal fix (one that does not meet the required "secondary treatment") because MSD convinced the EPA/OEPA that the Mill Creek Deep Tunnel would be built and that SSO 700 would spill its raw sewage into the tunnel for transmission to the Mill Creek Wastewater Treatment Plant for appropriate treatment. A recent study by the United States Army Corps of Engineers (ACOE), however, shows that the tunnel is not cost justified and is not likely to be built (its cost alone estimated at \$1.23 billion). The

ACOE study showed that the Tunnel would cost \$3.5 million more per year than its purported benefits (costs exceed benefits). Additionally, the tunnel is being designed to handle only a 2-year storm frequency. The Global Consent Decree, after all the purported effort by MSD and the EPA/OEPA, did not specify a storm frequency that will govern its provisions.³

The MSD has performed an internal study that shows that a full, secondary treatment plant (a legal solution) could be built at the location of SSO 700 in five years and that it would have many benefits. It would actually treat all of the raw sewage at SSO 700. It would reduce CSO discharges downstream in the CSO area of the Mill Creek and would reduce the loading to the Mill Creek plant, which cannot handle the sewage loads that it presently receives.

VI. THE CONSENT DECREE DOES NOT ADEQUATELY ADDRESS PROBLEMS AT THE MSD's WASTEWATER TREATMENT PLANTS, ILLEGAL CONNECTIONS, AND ILLEGAL BYPASSING.

Ohio EPA knows that the Sycamore and Polk Run wastewater treatment plants are not designed to handle their wet weather flows. These plants take sanitary sewage only (not stormwater). Polk Run NPDES permit specifies a design flow of 8 MGD (million gallons per day) but, in actuality, its design flow is only 6 MGD. Bypassing a wastewater treatment plant is illegal except in an Act of God event. Ohio EPA is allowing new connections in already overloaded sewer systems in Hamilton County. The Sycamore WWTP upgrades that are being proposed will not have loading limits for the sewage that is bypassed by secondary treatment and, above a certain flow amount, no limits at all. The high rate treatment facility that Ohio EPA is proposing to permit at

³ In one of its provisions, the Global Decree mentions a 10-year storm, without specifying duration, such as 1-hour, 24-hour, etc. The mention of a 10-year storm is meaningless, without a duration factor.

Sycamore is illegal under the Clean Water Act for wastewater treatment plants handling sanitary waste..

MSD needs to enforce regulations regarding illegal connections to their system rather than merely allow them to continue to contribute to overflows. Illegal SSO's, which overflow to municipal separate storm water sewers, also need to be addressed by MSD.

VII. PUBLIC PARTICIPATION

Public participation and citizen oversight are needed to insure compliance with the Clean Water Act. This includes easy access to the public information that MSD has.

The public participation proposed by MSD in the Consent Decree is very limited in both the scope of information to be provided to the Steering Committee, the issues the Steering Committee will address and the lack of representation from organizations.

The public needs full oversight of all aspects of MSD, planning, scheduling of projects, engineering and fiscal accountability. This will not happen without a more robust public participation program that includes funds for citizen technical and financial review (see Section VIII, Supplemental Environmental Projects).

MSD's Public Outreach fails to meet public information needs and is unlikely to engage citizens with a strong interest in this issue, much less, the general public.

Public outreach would be better served by making MSD's information available on the web and in newspapers and other media. Violations, warnings about SSO and CSO events, reporting on these events and levels of exceedances need to be made readily available to the public as the public uses these waterways, not to mention its own property.

VIII. SUPPLEMENTAL ENVIRONMENTAL PROJECTS (SEPs)

Supplemental environmental projects need to be managed by organizations other than MSD, but with reporting to the Court. The proposed SEPs in the Consent Decree are outside the scope of MSD's mission and experience.

Sierra Club recommends SEPs which are administered by organizations outside MSD to do the following: 1) provide funded citizen oversight over MSD engineering and financial performance and planning; 2) citizen water monitoring to educate citizens about Clean Water and compliance with the Consent Decree; 3) Resource Economic Studies to show the benefit of clean water to the community.

The SEP from the 1986 Consent Decree has not yet been spent as far as Sierra Club can determine. We request an accounting of these SEP funds and the interest they would have accrued.

IX. THE CONSENT DECREE IS UNENFORCEABLE AS WRITTEN AND, THE COMMISSIONERS, THE COURT AND THE PUBLIC NEED A SPECIAL MASTER TO AUDIT MSD'S ENGINEERING AND FISCAL PERFORMANCE.

The Second Consent Decree is unenforceable as written because it is layered with contingencies, deadline extensions, loopholes and a complete absence of interim benchmarks of success along the nineteen-year life of the Decree. Put in more simple terms, this is like allowing our public schools to educate our children and have only one test at the end of the 12th grade. The Consent Decree has numerous reporting requirements, but there are no intermediate standards that must be met along the way. Some clear examples of benchmark standards would be: (1) a certain number of SSOs

and SSDs eliminated each year⁴; (2) a certain number of CSOs remediated each year, reducing overflows to a small number, such as two per year; (3) separating so many miles of combined sewers each year; (4) expanding capacity at so many WWTPs each year (reducing or eliminating plant by-passing); (5) reducing the incidence of sewage backup complaints each year; (6) reducing the total number of sewer overflow events per 100-miles of sewer in the system each year from over 50 overflows/ 100-miles of sewers (now) to the industry benchmark of 5 overflows/ 100-miles of sewers in ten years.

Deadlines need to also reflect priorities such as the impact on human health and the environment, stopping overflows rather than simply moving the overflow threat to a new location, and no increases in the amounts of sewage going into pipes and wastewater treatment plants, until there is sufficient capacity to properly treat the sewage.

These are the kind of objective and visible standards by which MSD's performance can be graded in a **Public Accountability Report Card**. After purported years of negotiation between the MSD and the EPA/OEPA, these are precisely the kind of objective and visible standards that the public should expect to see, but are clearly missing from the Decree. MSD has a history of failure at accomplishing its long-term goals. If these objective standards are not met, residents, businesses and the environment will suffer the consequences. The concern for the public is that EPA/OEPA are not the "guarantors" of the success of this project. At this point in time, neither agency has the staff or resources to oversee a project of this scope and complexity. Also, compliance with the Consent Decree does not guarantee that, at the end, MSD will be in compliance with the Clean Water Act or its regulations. Hamilton County and the City of Cincinnati

⁴ SSO is a sanitary sewer overflow (illegal); SSD is a sanitary sewer discharge from a SSO (illegal). A CSO is a combined sewer overflow (not illegal in wet weather; illegal in dry weather – not good in either case).

have the power and the obligation to make sure the money is spent wisely, the projects are chosen on a worst-first basis, and the construction is completed in a timely manner.

First, in the view of the Sierra Club, it is impossible for the County and the City to oversee MSD and the Consent Decree under the structure of the 1968 Agreement. Under that Agreement, MSD has become a “shadow organization” hiding behind the City and the County. MSD told the federal judge in this case that it can raise millions of dollars in sewer revenue bonds, but it cannot be sued in its own name. MSD must start taking responsibility for its actions. Shared responsibility between the city and the county means no one is responsible. There needs to be one responsible party. If the \$1.5 billion slated to be spent to correct the decades of neglect of the Hamilton County sewers is wasted, then that taxpayer money is irretrievably gone. The County and City cannot simply rely on the EPA/OEPA to supervise compliance.

The recent Brown and Caldwell report June 24, 2003, commissioned by MSD at a cost of \$700,000 identifies a “crisis in leadership at MSD”, as well as a lack of planning in wastewater engineering, including a longer term wastewater collection a treatment facilities Master Plan. The report says that creating such a plan “will help MSD prioritize projects, identify schedules and improve customer service. Individual planning efforts related to CSO, SSO … and long-term replacement planning.”

The Consent Decree must include the appointment and funding of a Special Master⁵, who will have adequate supervisory staff and expert monitors. The Special Master would report to the Commissioners, the City, the Court and the public. A Special Master is an expert who is skilled in a particular area, in this case execution and

⁵ Federal Courts in the United States have the inherent authority to appoint a Special Master to assist the Court in monitoring compliance with its orders. Special Masters are also provided for under Rule 53 of the Federal Rules of Civil Procedure.

successful completion of major sewer improvement projects. The job of the Special Master would have three components: (1) engineering oversight (Are the capital improvement projects being completed? Are the benchmark environmental goals being met?); (2) fiscal accountability (Are the projects being completed on time and on budget? Is MSD being fair and honest in its use of bond proceeds and its rate setting?); and, (3) handling the Consent Decree's complex Dispute Resolution Process. It is Sierra Club's position that without a Special Master overseeing this project, the \$1.5 billion in ratepayer money will likely be frittered away by MSD. Since 1968, the MSD has failed to follow the rule of law and the explicit orders of the State of Ohio. It has failed to follow its federal discharge permits. It cannot now be trusted to properly execute this huge construction project with the focus, vigor and respect for legal obligations that is required.



March 27, 2002

CERTIFIED MAIL: RETURN RECEIPT REQUESTED

Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Washington, D.C. 20044-7611

Subject: United States and State of Ohio v. Board of County Commissioners of Hamilton County and the City of Cincinnati, D.J. Ref. 90-5-1-6-341A

Dear Sir:

On February 28, 2002, a notice was published in the Federal Register, which solicited comments from the public for a period of 30 days regarding the proposed Interim Partial Consent Decree ("Consent Decree") between the United States and State of Ohio v. Board of County Commissioners of Hamilton County and the City of Cincinnati, Civil Action Nos. C-1-02-107 and C-1-02-108. The Sierra Club wishes to submit this letter with attachments as comments on the above referenced Interim Partial Consent Decree.

As you are already aware, the problems relating to sanitary sewer overflows have occurred in Hamilton County for over 20 years, and therefore, the ultimate remedy will not be accomplished overnight. However, the Sierra Club and the residents of Hamilton County must be assured that this problem is corrected in an expedited and protective manner with the long-term best interests of the public in mind. The Interim Partial Consent Decree as it is now structured does not accomplish these goals. The numerous failings of the order include the following:

The Interim Partial Consent Decree as it is proposed is "partial" and therefore does not address the full magnitude of the Sanitary Sewer Overflows (SSOs) problem in Hamilton County. There are currently 101 numbered and identified (SSO) locations reported by the Metropolitan Sewer District to the Ohio EPA every month. The Sierra Club is also aware of other SSOs that are not reported. The proposed Interim Partial Consent Decree

only purports to address these numbered SSOs. Thus on its face, the scope of the order fails to protect public health, water quality and the environment by failing to eliminate the remaining 84 SSOs. In fact, the requirement to eliminate the 17 SSOs is illusory because of the numerous loopholes offered by the Interim Partial Consent Decree. Over the past ten years, Hamilton County has been adding new SSOs almost as fast as it is "removing" existing ones. It seems likely that the County is simply moving the overflow from one part of the system to another. Overflows at pump stations, CSOs and treatment plants are also a violation of the Clean Water Act, yet are not included in the Interim Partial Consent Decree.

The Interim Partial Consent Decree as it is proposed is "interim" and contains remedies that are not legal under the CWA. The proposed chemically enhanced high rate settling and storage facility as an interim remedy for SSO 700 is illegal because it cannot meet the secondary treatment standard of 30/30 and 85% removal and the County is not eligible for an 85% removal waiver due to the existence of excessive infiltration/inflow. The \$10 million minimum and \$15 million maximum spending for this interim remedy is arbitrary and, at best, may not treat all of the flow and, at worst, eliminate the problem altogether. Construction of this interim remedy is not required until 2007 and may continue to operate until 2016 or 2022 depending on the final remedy chosen. These time frames are totally unreasonable. While Sierra Club does not support chemically-enhanced high rate settling systems as an alternative to full secondary treatment, it is noteworthy that a CSO consent decree EPA and Atlanta, Georgia required the City to plan, design and build a remedy that includes separation of 20 – 25% of its combined sewers, two chemically enhanced high rate settling systems, two large storage tunnels, and some treatment plant improvements in less than seven years. Interim remedies should be of a relatively short duration, not 20 years in the future, as allowed in this Interim Partial Consent Decree!

The final remedy for SSO 700 relies heavily upon the Mill Creek Deep Tunnel, which may never be built, since it depends on "third party" funding. The time frame for construction of the Tunnel is set at 2016, while 2022 is the construction deadline, if an alternative remedy is chosen. Defendants have until 2005 to decide if the tunnel will or will not be pursued and have until 2009 to submit a remedial plan. Four years to develop a remedial plan after waiting to 2005 to decide if the tunnel will be built is clearly excessive. These time frames are excessive, not warranted by legally cognizable concerns and grossly fail to protect public health, water quality and the environment. Significantly, as the USEPA is well aware, SSO 700 has discharges of million gallons per day of raw sewage into Mill Creek during rain events! Timeframes of 20 years pose a severe risk of being lost in the tracking process by the regulators as time goes on and personnel changes take place.

In addition, the Mill Creek Deep Tunnel will not address SSOs in the Great Miami, Little Miami or Ohio River Basins.

All the Interim Partial Consent Decree deadlines are dependent on the County's completion of a hydraulic model of the sanitary sewer system. MSD has been required to

study and plan and eliminate SSOs since 1992 by order of the State of Ohio. MSD has spent nearly \$8 million dollars on this modeling effort to date and is scheduled in the CIP to spend another \$4 million in 2002. Undoubtedly, MSD knows or should know enough about its sewer system at this point in time to be bound by a comprehensive SSO elimination schedule. The Interim Partial Consent Decree sets up the model's completion and calibration as a major loophole in enforcement of any and all compliance schedules.

Capacity Assessment Plan, Capacity Assessment Report, and Capacity Assurance Program Plan are all dependent on dates in previous submittals (e.g. Capacity Assessment Plan is contingent upon hydraulic model validation). In other words, there is no definite end date for submittal of these documents. The Interim Partial Consent Decree does not require implementation of the Capacity Assurance Program Plan including construction of any SSO remedial measures proposed under the Capacity Assurance Program Plan. To be a meaningfully protect public health, water quality and the environment, the county and the city should be required to implement permanent, remedial measures in an expedited and protective manner.

The proposed limitation on new sewer connections is inadequate. The five to one credit program allows 1 volume of sanitary for every 5 volumes of storm water including retroactive credits. This not only allows the overflows to continue, but also increases the concentration of contaminants since sanitary wastewater has a much higher concentration of pollutants than storm water. These credits are automatic and are not based on demonstrated reductions in the hydraulic overloading upstream of SSOs.

Although the Ohio EPA ordered defendants to eliminate sewer overflows 10 years ago, the Interim Partial Consent Decree seeks no civil penalties for past violations and no stipulated penalties for capacity-related overflows, all in violation of the U.S. EPA's own penalty policy.

In conclusion, the Sierra Club believes that the Interim Partial Consent Decree as proposed falls markedly short of what has been required in other communities in this country. It is neither a holistic solution to the many violations at MSD, nor even a subset of just SSO violations or even some of the SSO violations. The solution needs to be holistic because of the complex nature of the infrastructure system. Historically, MSD has used piecemeal solutions, causing overflows, rather than creating permanent solutions in a reasonable time frame. For these reasons and others we have lodged our own lawsuit (copy attached) in hopes of expediting the schedule and ultimately improving the human and natural environment in Hamilton County.

Sincerely,

Marilyn Wall, Chair
Ohio Chapter Sierra Club
515 Wyoming Avenue
Cincinnati, Ohio 45215

**ENGINEERING REPORT ON
USE OF GRINDER PUMPS AS
SOLUTION TO WATER IN BASEMENT (WIB) PREVENTION
PROGRAM PROPOSED BY CINCINNATI, MSD
IN CONSENT DECREE SETTLEMENT
USA VS. HAMILTON COUNTY AND
CITY OF CINCINNATI, CIVIL ACTION C-1-02-107**

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**FOR:
OHIO CHAPTER OF THE
SIERRA CLUB
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**November, 2003
(Revised November 17, 2003)**

**ENGINEERING REPORT ON
USE OF GRINDER PUMPS AS
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1.0 INTRODUCTION

This review has been prepared by John M. Smith of Smith Environmental Engineering, Inc. (SEEI) in response to a request from Ms. Marilyn Wall of the Ohio Chapter of the Sierra Club.

2.0 DOCUMENTS REVIEWED

As a part of this analysis SEEI has reviewed the following:

- a) All applicable sections of "Consent Decree on Combined Overflows, Wastewater Treatment Plants and Implementation of Capacity Assurance Program Plan for Sanitary Sewer Overflows...USA Plaintiff vs. The Board of County Commissioners Hamilton County, Ohio and the City of Cincinnati, Defendants Civil Action No. C-1-02-107.
- b) October 26, 2003 Correspondence (E/M) from Marilyn Wall Re. St. Louis Experience.
- c) October 15, 2003 Memo from Patrick T. Karney, P.E., DEE, Director of MSD to Hamilton County Commissioners, John Dowlin, Phil Heimlich, and Todd Portune.
- d) "USEPA Manual Alternative Wastewater Collection Systems" EPA/625/1-91/024 October 1991 (Chapter 2).
- e) Communications and Quotations from Grinder Pump manufacturers and manufacturers representatives.
- f) SEEI files on Grinder Pumps Storm and Combined Sewers and SSO's.

3.0 GENERAL DISCUSSION OF WIB PROGRAM PLAN

The plan as described in Chapter XIII of the Consent Decree and in Exhibits 6, 7 and 8 is better described as a general outline of an implementation plan. The plan describes program goals an overall approach and a general schedule. It is non-specific in many areas of importance. The more important of these are outlined below:

- a) A specific budget should be developed, published and included in the final Consent Decree. This should include dollars allocated per quarter beginning January 1, 2003.

- b) A specific time schedule should be developed for overall plan implementation including the "ramp-up" time as described in Exhibit 6, Introduction.
- c) It should be made clear what portions of the program will be implemented by MSD staff or by outside consultants.
- d) MSD should make public the property owners who have experienced multiple wastewater back-up (Exhibit 6, Item III and use this information to develop the Item (a) above budget.
- e) The language of Exhibit 6, "MSD's good faith engineering judgment"...Items (IV.C; IV.D: V, Exhibit 7, Item IV) is non specific and bothers me from a professional engineering standpoint. I would suggest that all decisions and documentation be fully documented, sealed and signed by a professional engineer. Such professional engineer may be part of MSD's staff or a contract engineer.

I can not think of a better measure of "good faith" than the signature of a professional Engineer.

- f) It would be helpful to the "non-believers" if MSD would outline an overall management plan for this program including oversight that is responsible to the court.
- g) There seems to be a discrepancy in the language of Exhibit 6-III and Exhibit 7-II regarding past basement back-ups. Exhibit 6-III indicates MSD will contact property owner that have experienced back-up in the last five (5) years due to inadequate capacity. Exhibit 7-IV indicates MSD will take responsibility for the last two (2) years.
- h) I am very skeptical of the plan for the City of Cincinnati Solicitors Office to effectively handle claims originating in the City Controlled MSD Organization. This seems like a "pass-the-buck" plan. What priority would the City's Solicitors office place on these claims? What additional staffing would they require? Whose budget would this come from?

There should be a very specific set of requirements including a schedule for hearing claims and disputes made by the City Solicitors Office, with provision of third party professional review.

- i) The Exhibit 6, Attachment "A" drawings are over-simplified (See Section 4.0 of this report for additional details.

4.0 TECHNICAL DISCUSSION OF ALTERNATIVES

4.1 Grinder Pump Technology and Application to MSD Proposed WIB Program.

4.1.1 General

The Grinder Pump was developed over 30 years ago and has been extensively studied and supported by USEPA in pressure sewer systems. In this application, each home is equipped with a duplex grinder pump station that includes a 150-560 gallon receiver station pump, pump

controls, and discharge check valves all situated in a prefabricated FRP enclosure, normally located in a side yard. A typical grinder pump is 2 HP with a pumping capacity of 5-35 gpm, depending on the discharge head, which typically ranges from 10 to 90 psig. (23 to 290 feet). The grinder pump was selected to macerate typical domestic waste components to allow discharge to a 4 to 6-inch force main. Hundreds of systems have been installed throughout the U.S., during the past 30 years.

For MSD's proposed WIB program as described in Exhibit 6, Attachment A, it is proposed to 1) install a bulkhead to block the normal gravity flow in the house lateral, 2) install a simplex grinder pump to pump sanitary waste to the home lateral downstream of the bulkhead. The grinder pump station is shown located either in the basement or the yard area adjacent to the dwelling and includes the normal components of float controls, isolation gate valve, a discharge check valve, control panel and visual alarm. The pumping head is shown to be approximately 5 feet. Under this arrangement, a typical 2HP pump will have a capacity of 35 to 40 gpm. The receiver tank is shown to be about 175 gallons. This design is adequate to handle the sanitary waste from normal single or two family dwellings. The system will not however, be of sufficient capacity to handle large volumes of water entering the basement through cracked floors or other openings from surcharged Sanitary Sewers (SS) on Combined Sewers (CS), that has been described to have occurred in several public meetings concerning this subject.

These systems are inoperative during power failures that commonly accompany high intensity storms that cause SSO, CSO and surcharged conditions.

4.1.2 Estimated Cost of Grinder Pump Installation

The cost of the grinder pump system has been publicly quoted by MSD to be \$30,000 to \$35,000 per installation. This cost is clearly excessive.

SEEI estimates the cost per installation to less than \$15,000 per dwelling. We estimate the cost as follows:

EQUIPMENT One Simplex SG Grinder Pump package with 2' diameter x 7' deep (164 gallons) FRP receiver station with float controls, isolation valve, check valve, 1-½" discharge coupling and control panel. (See attached quote).

Equipment	Sub-Total	\$ 3,500.00
INSTALLATION		
Excavation and Yard Restoration		\$ 450.00
Labor (Skilled)		\$ 700.00
Labor (Trades)		\$ 350.00
Foreman		\$ 400.00
Materials		\$ 350.00
Subtotal		<u>\$2,250.00</u>
Profit and Contingency		\$ 800.00
Installation	Sub-Total	\$3,050.00

<u>INSPECTION AND SITE ENGINEERING</u>	\$ 1,250.00
Sub-Total	\$ 7,800.00
<u>MSD PROGRAM MANAGEMENT AND MANAGEMENT</u>	
<u>OVERHEAD @ 35%</u>	\$ 2,730.00

TOTAL ESTIMATED COST PER DWELLING \$10,530.00

4.1.3 Other Pump Systems

On-site pumping systems similar to conventional lift stations are available at capacities of 50 to 500 gpm and discharge heads to 200 feet +, to handle extreme basement flooding conditions due to surcharge. These systems range in cost from \$10,000 to \$50,000 installed.

It should be recognized, however that this solution, as well as grinder pumps or "back flow preventers" (if they were feasible) will eliminate a single family flooding problem but passes the problem along until ultimate system capacity and/or storage is provided.

4.2 Back Flow Preventers

We have very serious doubts that "Back Flow Preventers" as described in Alternative (A), Section VI of Exhibit 6 represent a viable alternative. Our experience and knowledge of "backflow preventers" indicates they are a high differential pressure clear water device that are not applicable to 6" to 8" gravity house laterals. We are very skeptical from a practical engineering point of view that any non motorized flap valve or check valve assembly would work reliably for domestic sanitary wastes due to the clogging effects of paper wastes, personal hygiene products and other household wastes commonly discharged to sanitary sewers.

Conceptually, a simple "back flow preventer" would be a good alternative. From a practical point of view, we consider this alternative to be infeasible. It should also be recognized that a workable "back flow preventer" would create a back-up of sanitary wastes in the home during the surcharge event unless storage is provided.

4.3 New Technologies

We are unaware of "new technologies" that MSD believes will be offered in the future under this plan. We heartily endorse, however, any efforts on the part of MSD, the engineering community or scientists to find a cost effective and equitable solution.

4.4 Property Purchase

There are no major technical issues for this alternative. If practiced as a part of the WIB plan, property purchase should include maximum use of the property for surcharge storage and protection of adjacent neighborhood property values.

APPENDIX "A"

Grinder Pump Quotation

FAX

Chesley Associates, Inc.
5583 Ridge Avenue
Cincinnati, Ohio 45213

Date 10/27/03

Number of pages including cover sheet 4

To:

John

J.M. Smith Eng.

From:

Malcolm S. Robertson

Phone

Fax Phone 688-1657

CC:

Phone

513-531-7103

Fax Phone

513-531-0445

REMARKS:

Urgent For your review Reply ASAP Please comment

John,

Thanks for your call this A.M. on the Cincinnati job. Attached please find general info from Barnes on a simplex grinder system. Budget pricing below:

One (1) Simplex SG package with control panel and level controls....\$3,200.00/each.

Standard depth on above would run 7'. Add about \$110.00/ft. for deeper FRP basin.

Note: If the simplex station would be located inside (not recommended), the above pricing would be adequate.

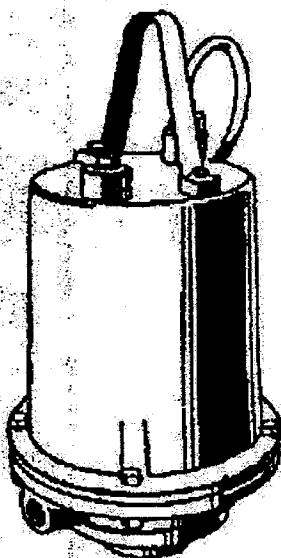
Best regards,

Malcolm S. Robertson
Malcolm S. Robertson

BARNES® SUBMERSIBLE GRINDER PUMPS

Series: SG

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DATE	7/93
REPLACES	7/92



Series: SG 2 HP
3450 RPM

Description:

THE GRINDER PUMP IS DESIGNED TO REDUCE DOMESTIC, COMMERCIAL, INSTITUTIONAL AND LIGHT INDUSTRIAL SEWAGE TO A FINELY GROUNDED SLURRY.

Specifications:

DISCHARGE:	1-1/4" NPT, Horizontal.
LIQUID TEMPERATURE:	160°F Intermittent
VOLUTE:	Cast Iron ASTM A-48, Class 30.
MOTOR HOUSING:	Cast Iron ASTM A-48, Class 30.
SEAL PLATE:	Cast Iron ASTM A-48, Class 30.
IMPELLER: Design:	4 Vane, Semi-Open, Reversible.
Material:	Dynamically Balanced, ISO G6.3. Ductile Iron ASTM-A339-55, Rockwell C-55.
ABRADER:	Hardened 440C Stainless Steel, Rockwell C-55.
CUTTER:	Hardened 440C Stainless Steel, Rockwell C-55.
WEAR PLATE:	416 Stainless Steel, Rockwell C-55
SHAFT:	416 Stainless Steel.
SQUARE RINGS:	Buna-N.
HARDWARE:	300 Series Stainless Steel.
PAINT:	Acrylic Primer with Enamel Top Coat.
SEAL: Design:	Single Mechanical, Oil-Filled Reservoir, Secondary Exclusion Seal.
Material:	Rotating Faces - Carbon Stationary Faces - Ceramic Elastomer - Buna-N
CABLE ENTRY:	Hardware - 300 Series Stainless 25 ft. Cord, Pressure Grommet for Sealing and Strain Relief.
SPEED:	3450 RPM (Nominal)
UPPER BEARING:	Design: Lubrication: Load: Sleeve Oil Radial
LOWER BEARING:	Design: Lubrication: Load: Single Row, Ball Oil Radial & Thrust
MOTOR:	Design: NEMA L-Single Phase, NEMA B-Three Phase Torque Curve. Completely Oil-Filled, Squirrel Cage Induction. Class B.
Insulation:	Capacitor Start/Capacitor Run. Requires Overload Protection to be Included in Control Panel. Requires Barnes® Starter or Control Panel Which Includes Capacitors, Or Capacitor Pack.
SINGLE PHASE:	Dual Voltage 230/460; Requires Overload Protection to be Included in control panel.
THREE PHASE:	Overload Protection to be Included in control panel.
OPTIONAL EQUIPMENT:	Seal Material, N/C Temperature Sensor (Requires Relay in Control Panel), Additional Cable.



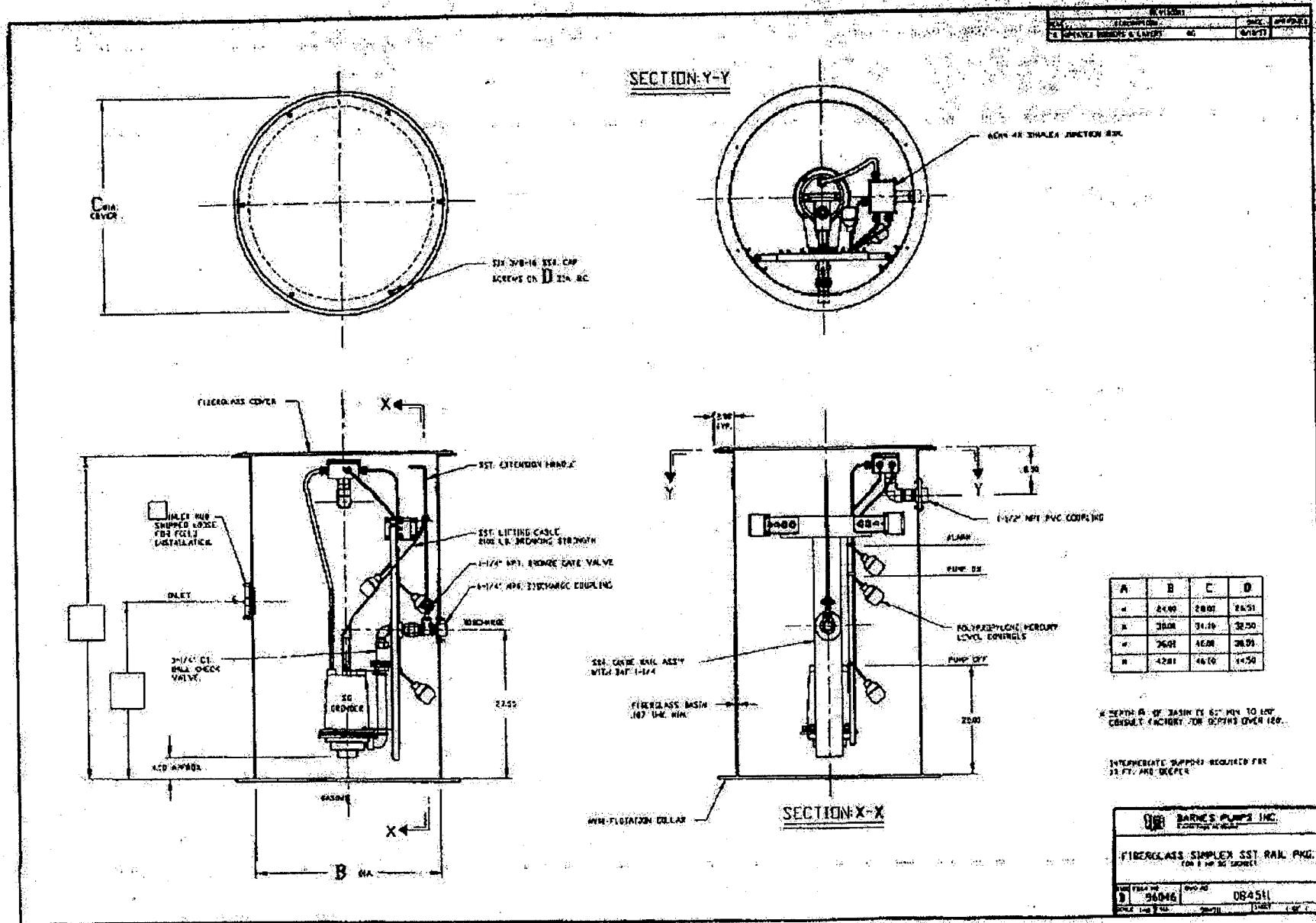
BARNES PUMPS, INC.

A Barnes Pump, Inc. Company
Distributor Sales & Service Dept.
420 Third Street/P.O. Box 803
Piqua, Ohio 45356-0803
Ph: (513) 773-2442
Fax: (513) 773-2239

Special Bids & Project Sales
1485 Lexington Ave.
Manfield, Ohio 44907-2874
Ph: (419) 774-1511
Fax: (419) 774-1530

Submersible Grinder Pumps
SWPA
MEMBER

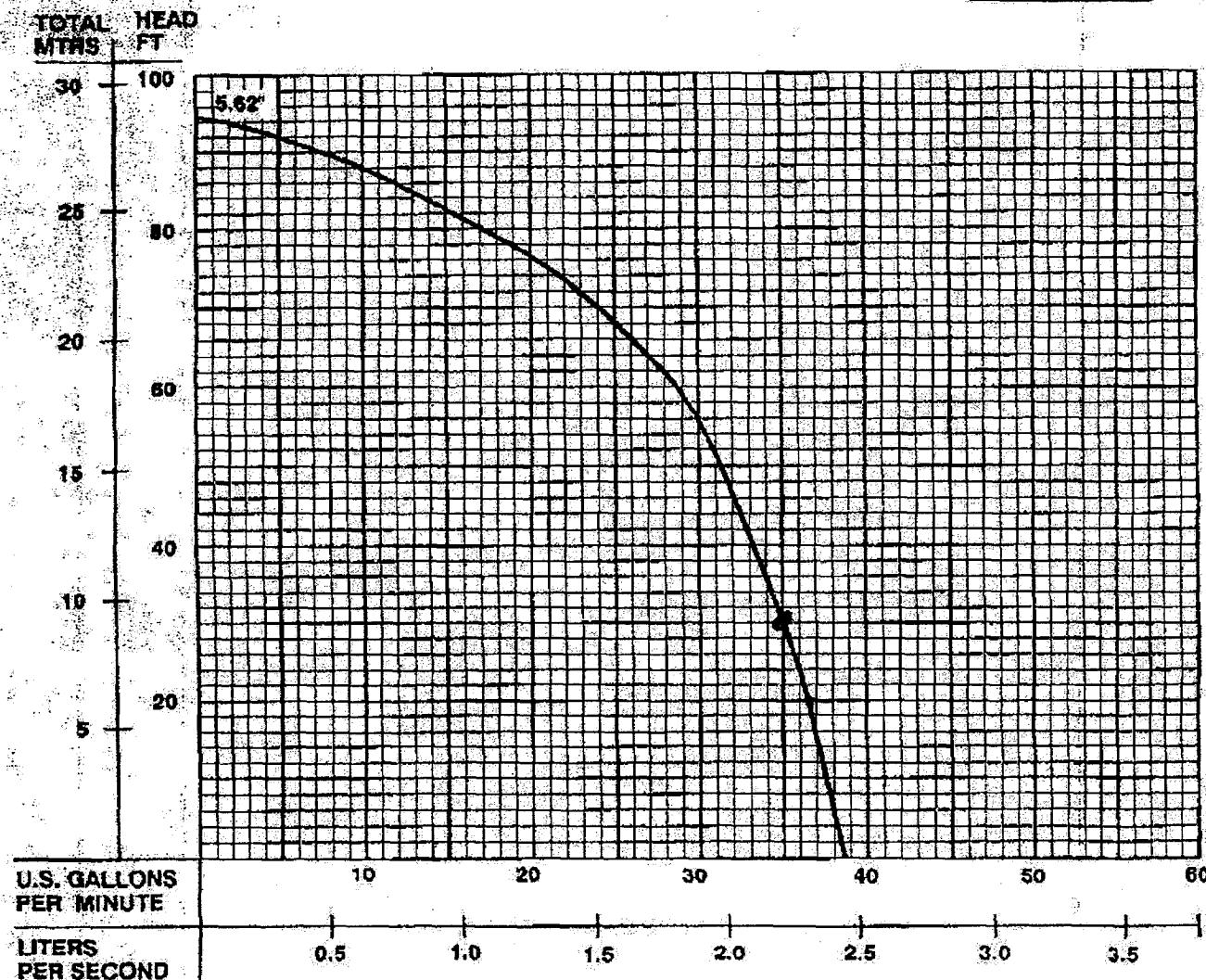




PERFORMANCE CURVE

Series: SG GRINDER, 2HP, 3450RPM

SECTION	3B
PAGE	3
DATE	7/93
REPLACES	7/92



Testing is performed with water, specific gravity of 1.0 @ 68° F, other fluids may vary performance.
 In grinding applications, recommended basin inflow limitations are as follows:
 Simplex----4 homes or 1600 gallons/day.
 Duplex----8 homes or 3200 gallons/day.



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 420 Third Street/P.O. Box 603
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 Fax: (513) 773-2238

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 Mansfield, Ohio 44907-2674
 Ph: (419) 774-1511
 Fax: (419) 774-1530





Ohio Water Sentinel Program

Leslie Allen, Esq.
Senior Attorney
Environmental Enforcement Section
United States Department of Justice
PO Box 7611
Washington, DC 20044-7611

July 22, 2003

Re: Sierra Club Comments on the 2nd Decree

Dear Ms. Allen:

Pursuant to your request to our Counsel, Mr. Albert J. Slap, we are providing to the EPA Sierra Club's comments on the proposed 2nd Consent Decree. EPA is already in receipt of the Club's extensive comments on the IPCD. We understand the IPCD is not going to be merged with the 2nd Decree. We believe that it should both modified to address our concerns and be merged – and the proposed IPCD abandoned.

With regard to MSD's WWTPs, we understand that the Sycamore Plant expansion is going to be included in the 2nd Decree as part of injunctive relief. Please see Sierra Club comments on the Sycamore Plant attached. With regard to other WWTP expansions, the Sierra Club believes that, due to overflow and by-pass violations, especially at the Mill Creek Plant, it is likely that there will have to be plant expansions. This is especially true as SSOs are eliminated and CSOs reduced, thereby increasing sewage flows to the WWTPs (as they should be). Without upsizing the plants, the current illegal overflows will just be moved further downstream and become illegal WWTP by-passes or emerge as SSOs at another location, increased frequency of CSO activation, or sewage backups in residents' basements. We will have specific comments on plant expansions after we review WWTP by-pass data.

With regard to the 2nd Consent Decree, which is now being negotiated, you already have e-mails from us and data compilations that Sierra Club prepared that demonstrates the need for additional injunctive relief in the 2nd Decree for both SSOs and CSOs.

- The IPCD does not have an adequate number of SSOs that are going to be eliminated through construction projects (CIPs) with a set end date.



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- Only 15 of 90 active SSOs have construction schedules in the IPCD. These 15 SSOs together overflowed 394 times in 2002, alone.
- The 75 other active SSOs that are not scheduled for construction overflowed 1122 times in 2002, alone.
- Of the 15 SSOs that are scheduled for construction, 13 were identified and scheduled for elimination by MSD as far back as 1993.
- Of the 75 other active SSOs that are not scheduled for construction, 35 of them were identified and scheduled for elimination by MSD as far back as 1993.
- All of the 90 active SSO either have a CIP number associated with it by MSD or an estimated project cost.

The proposed 2nd Consent Decree does not require adequate elimination or minimization of CSOs (through infrastructure repair/replacement) by a set end date.

- In the proposed 2nd CD, only 42 of 256 CSOs are scheduled for construction with a set end date.
- All but 40 CSOs out of a total of 256 have CIP numbers and cost estimates associated with them.
- Of the 42 CSOs that are scheduled for construction in the 2nd Decree with a set end date, 35 of them were identified by the MSD in its 1996 LTCP.
- While there are many MSD data gaps in CSO activations, of the 214 CSOs that are not scheduled for construction with a set end date, 56 (that we have data about) overflowed a total of 4705 times in 2001 and 2002, combined.

It is very important that the consent decree adopt a "fix it first" policy. The MSD should fix illegal overflows and SIB problems BEFORE building new sewers in sprawling, unbuilt areas. Stipulated Civil Penalties should apply if deadlines are not met or SIB's not fixed by a date certain.

The Civil Penalty in this case should reflect the MSD's substantial lack of progress in eliminating known SSOs between 1993 and 2003. The Civil Penalty in this case should reflect the substantial lack of progress in eliminating or minimizing CSOs between 1996 and 2003. The Sierra Club suggests that the minimum civil penalty be \$25 million.

The Sierra Club suggests that \$5 million worth of supplemental environmental projects be implemented to address many of the concerns that come with raw sewage overflows. The following represents Sierra Club's suggested supplemental environmental projects:

1. Independent, third-party audits of WWTP monitoring and reporting. This independent auditor would report to the Court and the public on NPDES compliance and especially by-pass issues.



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CLUB**
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2. A Citizen Oversight Committee to review compliance with the Consent Decree. A small group of Hamilton County residents will be appointed to a committee that will oversee the compliance with the consent decree, making sure that MSD follows its construction schedules and other schedules in the decree. This committee would report to the Court and the public. Committee members would include members to be selected by the Sierra Club. The Citizen oversight committee would have a budget to hire technical experts (both engineering and economic/accountant and the Committee expenses would be paid).
3. Water Sentinels Monitoring Program. Similar to Water Sentinels programs in other states and other locales, a citizen group will test water samples on a periodic basis. Water samples will be taken from creeks, streams, and rivers selected by the Sierra Club to be tested for compliance with water quality standards. Results would be published in a newsletter, on the web and distributed to Hamilton County residents and the Court.
4. Funding a mechanism to help SIB victims. This mechanism would aid sewage-in-basement residents who are seeking compensation for clean-up expenses and personal property damages. This administrative claims mechanism would be conducted in a way that would not require each resident to bear the expense of hiring an attorney. Rather, they would be handling the claims themselves. This will provide residents with an efficient, fair and economical way to receive reimbursements for sewage-related damages. This administrative claims system would be publicized in every sewer utility bill in order to inform the public of their rights.
5. MSD would be required to publish a monthly ad in the Enquirer and the Post that discloses every violation that MSD has committed (violations of the Clean Water Acts and violations of the Consent Decree) and the location of those violations. This will act as an awareness mechanism so that all Hamilton County residents have knowledge of what exactly is being discharged into the waters, where, and when.
6. Fund the beautification projects in neighborhoods that have had chronic SIB problems (e.g. beautifying public parks, green spaces, etc.).



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7. **Sewage in Basement Real Property Damages – Just Compensation for Government Taking.**
 - a. Many Hamilton county residents have experienced sewage backups in their basement not just once or twice, but many times. MSD rarely does anything to aid these residents. MSD tells sewage in basement victims that the backups are the homeowner's fault, even when it isn't. MSD does not provide homeowners with information on proper clean up methods and disease protection.
 - b. MSD does not have the authority to store sewage in the basements of Hamilton County residents without just compensation. Therefore, the Sierra Club suggests that a Sewage in Basement Program be outlined in the final consent decree that holds MSD accountable for backing up sewage into the basements of Hamilton County residents. The following represents the suggested SIB program.
 - c. Disclose to the public in sewer bills, a map showing the chronic SIB areas. Disclose to Sewage in Basement Victims how to file a damages claim and claim for condemnation in each bill.
 - d. Send out 4 x (in the sewer bill, easy to find listing in phone book) information on how to clean up after a sewage backup and protect homeowners from disease.
 - e. The Consent Decree would establish a rebuttable presumption that a backup in chronic area is fault of the MSD
 - f. MSD would pay for immediate cleanup and disinfection of a sewer overflow in a residence in chronic SIB areas and any situation where MSD's crew finds a "main line overload" or a "main line blockage."
 - g. The Program would include a yearly outside, third-party audit of the MSD' "determination" of the cause of an overflow and what is a chronic sewer in basement neighborhood.
 - h. If the SIB is in a chronic area, burden of proof is always on MSD to show that it is not its fault.



Ohio Water Sentinel Program

- i. If the SIB is not in a chronic area, then, assuming that the crew does not find main line overload or main line blockage (in which case it is MSD's fault, again), but does not find lateral problem either, then, the burden of proof is shifted back onto the MSD, if the homeowner hires a plumber who finds no problem with the lateral.
- j. For residential SIB situations in chronic areas, the MSD will immediately clean and disinfect contaminated areas. Property damage payment of \$900 per overflow will be immediately paid to the homeowner "no fault" for each documented incident of SIB. If the homeowner has a claim that is greater than \$900, then it will present the receipts or verification to MSD. MSD can either pay within 90-days or the case goes to an administrative claims board or AAA-type arbitration for property damages. Attorneys are not necessary to participate in the process.
- k. For condemnation claims, the homeowner must take the matter to court, but the new, above-referenced burdens of proof would apply.

8. Fund an economic study of the value of clean water in local streams conducted by Rivers Unlimited, Inc. and Ohio State University.
9. Fund Water Keeper Alliance to form Water Keeper group on the Mill Creek, the Great Miami, and the Little Miami Rivers in Hamilton Co. See <http://www.waterkeeper.org/>. The Keepers work actively on the river to protect it.

If you have any questions regarding this letter, do not hesitate to give me a call at the number below.

Sincerely,

Marilyn Wall, Conservation Chair
Ohio Chapter, Sierra Club

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Re: Comments on Sycamore Creek WWTP NPDES permit renewal & Anti-degradation Report

1. Has a Permit to Install (PTI) application been submitted by MSD to Ohio EPA for the construction of Phases 1 and 2 as indicated in the February 20, 2003, cover letter? If so, we would like a copy of this document and any resulting PTI issued by Ohio EPA.
2. Sycamore Creek WWTP has excessive wet weather flows (although it is 100% separate sanitary sewer) and the proposed alternative is the construction of high rate treatment facilities for flow that exceeds conventional treatment capacity. Although MSD implies that this alternative is proposed while "ongoing long term planning and collection system rehabilitation is proceeding", the long term goals are not specifically laid out in the documents provided to the Sierra Club. While interim treatment options may be appropriate it is unclear how long this facility will continue to operate under this proposed alternative. The high rate treatment process does not meet the secondary treatment requirements specified in the Clean Water Act.
3. Four "known" Sanitary Sewer Overflows as well as other areas of surcharging into neighborhoods and basement floodings are associated with the Sycamore Creek Wastewater collection system, however, the documents provided do not state how those overflows will be impacted by the treatment plant redesign.
4. The average inflow and infiltration rate in gallons per day is almost 2 million gallons (1.88 million gallons) yet very little information is presented by MSD to describe how measures will be taken to reduce this exorbitant amount of water.
5. Facilities would be designed to treat a peak flow of 18 million gallons per day (mgd) through secondary treatment (average design flow of 9 mgd) and peak flow of 32 mgd through the high rate treatment facilities for a combined flow of 50 mgd.
6. According to the permit application primary and secondary internal bypasses occurred 47 times last year.
7. According to Ohio EPA reports mercury has been reported in the discharge from the plant. What efforts have been made by MSD to locate the source of this contaminant? The analytical results of other tested parameters were not included with the Ohio EPA submittal.
8. Are the toxicity tests (and other parameters) that are reported to Ohio EPA sampled from the treated effluent or the bypassed wastewater? If only the treated effluent is sampled then MSD is not reporting a representative sample of water leaving the facility. So although the treatment plant may be functioning as designed the fact that untreated

wastewater is also being discharged (that does not meet permit limits) is not being accurately portrayed.

9. It is difficult to understand how the non-degradation alternative involves only primary treatment for flows in excess of 18 mgd while the preferred alternative is the same as the non-degradation alternative but with the added high rate treatment facilities. In other words the preferred alternative involves more treatment than the non degradation alternative. Please explain how this can be.

10. What is being used as the baseline is the fact that millions of gallons of wastewater are and have been discharged for years without adequate (secondary treatment). All of the alternatives proposed can be looked as an improvement over what currently exists.

11. Permit concentration limits and loading limits must be based on the entire effluent stream not just on the first 18 mgd as MSD is proposing.

12. The alternative to treat all wastewater to secondary treatment (which is what the Clean Water Act requires) should have been presented also.

13. The alternative to remove excessive inflow/infiltration in the collection system should have been presented also as the operating cost should be much lower than treating rainwater which does not need to be treated at a wastewater treatment plant.

14. It is disturbing that the Ohio EPA Little Miami water quality reports from 1993 to 1998 noted that concentrations of nitrate-nitrite -nitrogen were higher in the lower basin. The plant raises the concentration of phosphorus and coliform levels are extremely downstream of the plant.

15. The Sycamore Creek WWTP has an average rainfall derived inflow/infiltration 2 to 3 times what is typical for separate sanitary systems. Flows in excess of 32 mgd results in collection system losses as well as primary and secondary treatment bypassing. How will the 50 mgd peak flow design affect the already problematic collection system losses (surcharges to neighborhoods and basement floodings)?

16. Many of the alternatives are dismissed because of the likelihood of a "significant lack of public acceptance". It is more likely that the public is largely unaware of the issues unless they have personally experienced basement floodings or neighborhood surcharges.

17. The construction costs for the preferred design is \$23.56 million which does not include operation and maintenance costs.

17. Flow simulations made in 1999 Feasibility Study estimate approximately 30 times a year flows at the plant would be in excess of 18 mgd.

18. None of the alternatives include coliform limits

19. It is estimated that on an annual basis approximately 34 million gallons of wet weather flow will be treated through the high rate treatment whereas previously this flow would receive little or no treatment. Approximately 100 million gallons more a year will receive secondary treatment with the increase in secondary capacity from 14 mgd to 18 mgd.

20. Two years ago in July 2001 during the storm that affected so many people with sewage backups and broken sewer lines, the Sycamore Creek treatment plant was totally flooded and several processes were un-operational. Ohio EPA should not be permitting treatment plants in the flood plain or even flood prone areas. MSD should not consider the location for this plant in any long-term planning efforts.